

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte STEVEN P. CHRISTIANO, GREGORY G. BAUSCH,  
LAUREN M. TONGE, SHARON K. MCCOY, ELIZABETH F. MALLIN,  
ROGER J. JONES, ATHANASIOS SURUTZIDIS and ANDREW A. FISK

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Appeal No. 95-4939  
Application No. 08/096,345<sup>1</sup>

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ON BRIEF

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Before KIMLIN, WARREN and SPIEGEL, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-15, 18-28, 31-41 and 44, all the claims remaining in the present application. Claim 1 is illustrative:

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<sup>1</sup> Application for patent filed July 22, 1993.

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1. A composition consisting essentially of:

(I) a reaction product prepared by reacting at a temperature 50EC to 300EC:

(i) 100 parts by weight of at least one polyorganosiloxane selected from the group consisting of[:]

(A) a polyorganosiloxane having a viscosity of about 20 to 100,000 cS at 25EC and being expressed by the general formula  $R^1_a SiO_{(4-a)/2}$  in which  $R^1$  is a monovalent hydrocarbon or halogenated hydrocarbon group having 1 to 10 carbon atoms and a has an average value of 1.9 to 2.2 and

(B) a polyorganosiloxane having a viscosity of 200 to about 100 million cS at 25EC expressed by the general formula  $R^2_b (R^3O)_c SiO_{(4-b-c)/2}$  in which  $R^2$  is a monovalent hydrocarbon or halogenated hydrocarbon group having 1 to 10 carbon atoms,  $R^3$  is hydrogen or a monovalent hydrocarbon group having 1 to 10 carbon atoms, b has an average value of 1.9 to 2.2 and c has a sufficiently large value to give at least one  $-OR^3$  group in each molecule, at least one such  $-OR^3$  group being present at the end of the molecular chain;

(ii) 0.5 to 20 parts by weight of at least one silicon compound selected from the group consisting of

(a) an organosilicon compound of the general formula  $R^4_d SiX_{4-d}$  in which  $R^4$  is a monovalent hydrocarbon group having 1 to 5 carbon atoms, X is selected from the group consisting of hydroxyl and a hydrolyzable group and d has an average value of one or less,

(b) a partially hydrolyzed condensate of said compound (a),

(c) a siloxane resin consisting essentially of  $(CH_3)_3SiO_{1/2}$  units and  $SiO_{4/2}$  units wherein the ratio of  $(CH_3)_3SiO_{1/2}$  units to  $SiO_{4/2}$  units is 0.4:1 to 1.2:1, and

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(d) a condensate of said compound (c)  
with said compound (a) or (b);

(iii) greater than zero to 30 parts by weight  
of at least one finely divided filler;

(iv) a catalytic amount of a compound for  
promoting the reaction of components (i) to (iii);

(II) a nonaqueous liquid continuous phase selected  
from the group consisting of ethylene glycol, propylene  
glycol, polypropylene glycol, polyethylene glycol, copolymers  
of ethylene and propylene glycols, condensates of  
polypropylene glycol with polyols, condensates of polyethylene  
glycol with polyols, condensates of copolymers of ethylene and  
propylene glycols with polyols, alcohol alkoxylates, and  
alkylphenol alkoxylates; and

(III) silica having a methanol wettability of from  
30 to 70 percent.

The examiner relies upon the following references as  
evidence of obviousness:

Hill et al. (Hill)	499,364	Aug. 19, 1992
(European patent publication)		(filed May 8, 1989)
McGee et al. (McGee)	341,952	Nov. 15, 1989
(European patent publication)		

Appellants' claimed invention is directed to a  
composition that finds utility as a defoamer or antifoam agent  
in the pulp and paper industry, paints and latex, cleaning  
detergents, etc. The composition comprises (I) a reaction  
product of a polyorgano-

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siloxane and a silicon compound of the recited formula, (II) a nonaqueous liquid, such as ethylene glycol, and (III) silica having a methanol wettability of from 30 to 70 percent.

According to appellants' specification, methanol wettability is determined by a standard test which measures the volume percent of methanol in water needed to just wet the silica (see page 20). We are told that the silica "of the present invention is a moderately hydrophobic particulate stabilizing aid wherein the particulate is a very fine particle size silica" (page 19 of specification, lines 9-11).

Appealed claims 1-15, 18-28, 31-41 and 44 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hill in view of McGee.

We have carefully considered the respective positions advanced by appellants and the examiner. In so doing, we find ourselves in agreement with appellants that the prior art applied by the examiner fails to establish a prima facie case of obviousness for the claimed subject matter. Accordingly, we will not sustain the examiner's rejection.

There is apparently no dispute that Hill, the primary reference, discloses an antifoam silicone composition which

comprises the reaction product of appellants' component (I) in combination with the presently claimed nonaqueous liquid, component (II). However, the examiner readily acknowledges that Hill "does not teach of the use of a stabilizing aid which is within the range of instantly claimed component (III)" (page 3 of Answer). To remedy this deficiency in the Hill disclosure, the examiner relies upon McGee for teaching a similar antifoam composition and hydrophobic silica as a stabilizing aid. According to the examiner, "[i]t would have been prima facie obvious to one of ordinary skill in the art to substitute the hydrophobic precipitated silica of McGee et al. into the composition of Hill et al. in order to increase the stability between components I and II of the Hill et al. reference" (page 5 of Answer).

In our view, there are two reasons which undermine the examiner's prima facie case of obviousness. First, Hill expressly discloses that:

Unlike many of the silicone antifoam compositions of the prior art, the compositions of the present invention do not have to contain silica in order to exhibit excellent defoaming character. This allows for the formulation of antifoams having low viscosities relative to systems based on mixtures of viscous fluids and silica, thus minimizing the

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handling and processing difficulties associated with such thick materials.

See page 3, lines 9-12. Accordingly, based on this disclosure of the primary reference, there would have been no motivation for one of ordinary skill in the art to incorporate the silica of McGee in the composition of Hill. Secondly, McGee does not teach the claimed "silica having a methanol wettability of from 3 to 70 percent." McGee is silent regarding the methanol wettability of the silica utilized and, as is disclosed in the present specification, not all hydrophobic silica have the claimed methanol wettability but, rather, only those which are rendered moderately hydrophobic. Furthermore, although appellants' specification data provides evidence that compositions within the scope of the appealed claims are superior antifoaming agents relative to compositions made in accordance with the disclosures of Hill and McGee, the examiner offers the conclusion that the specification examples "are insufficient to overcome the prima facie case of obviousness because no criticality has been demonstrated for the specifically claimed silica" (page 5 of Answer), without providing a substantive analysis of the examples that explains why they are insufficient to establish criticality.

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In conclusion, based on the foregoing, the examiner's  
decision rejecting the appealed claims is reversed.

REVERSED

EDWARD C. KIMLIN	)	
Administrative Patent Judge	)	
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	)	
	)	
CHARLES F. WARREN	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
CAROL A. SPIEGEL	)	
Administrative Patent Judge	)	

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